OWNER'S MANUAL MONITOR SIGNAGE

Please read this manual carefully before operating your set and retain it for future reference.

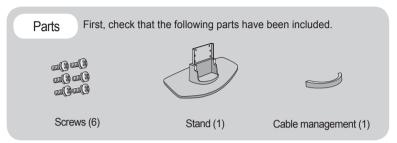
MONITOR SIGNAGE MODEL M4210L

Table of Contents

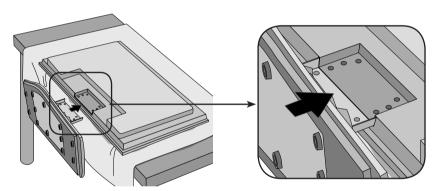
Connecting the stand	4
Connecting the Speakers	5
Portrait Mode	6
Using the Remote Control	7
Remote Control Buttons	7
Inserting Batteries into the Remote Control	8
Part Names and Functions	9
Connecting to External Devices	10
When Connecting to Your PC	10
VESA FDMI Wall Mounting	12
Video Input	13
HDMI Input (480p/576p/720p/1080i/1080p)	14
Watching AV Outputs	15
User Menus	16
Screen Adjustment Options	16
OSD Menu	18
How to Adjust the OSD (On-Screen Display)	19
Adjusting the Screen Automatically	19
Adjusting Screen Color	20
Adjusting Audio	25
Adjusting the Timer	26
Selecting Options	28
Adjust Set ID and Check Serial No. and SW Version	32
Troubleshooting	33
Specifications	36

Connecting the stand

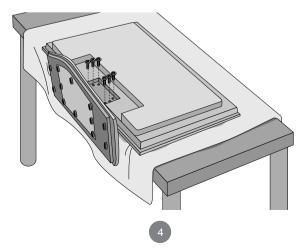
- Only on some models.
- 1. Take the parts for the stand out of the box and assemble them as shown in the picture below.



2. Place a soft cloth on the table and place the screen downward. Connect the stand as shown in the following picture.



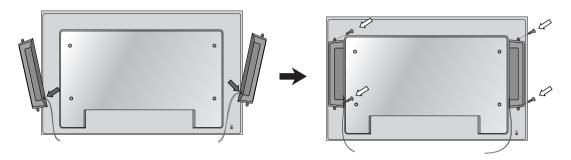
3. Use the screws to secure the stand on the rear side of the product as shown in the diagram.



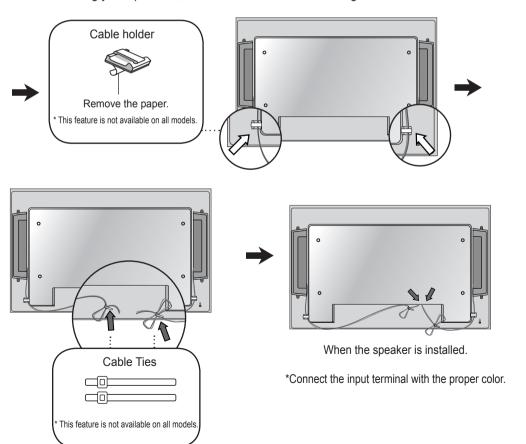
Connecting the Speakers

- Only on some models.

Mount the speakers onto the sets using screws as shown below.

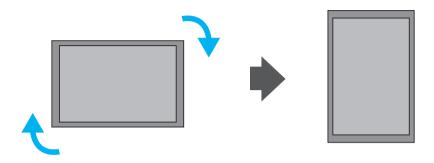


After installing your speakers, use cable holders and ties to organize the cables.



Portrait Mode

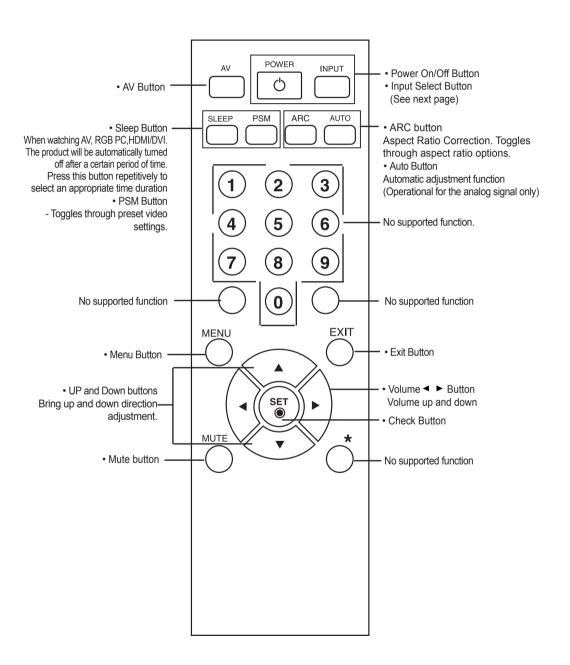
- Only on some models.



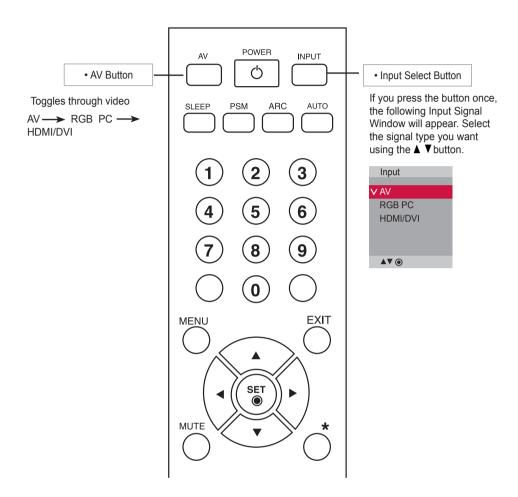
"When installing in portrait mode, rotate the sets clockwise when looking at the unit from the front."

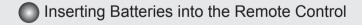
Using the Remote Control

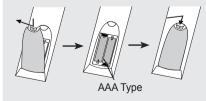
Remote Control Buttons



Using the Remote Control





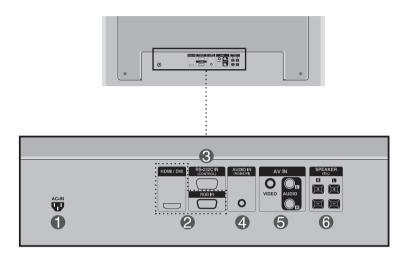


- 1. Open the battery compartment cover on the back side and install the batteries matching correct polarity (+ with +,- with -).
- Install two 1.5 V AAA batteries. Don't mix old or used batteries with new ones.
- 3. Close cover.
- 4. To remove the batteries, perform the installation actions in reverse.

Part Names and Functions

* Image shown may differ from your set.

Rear View



- Power Connector : Connect the power cord
- 2 RGB PC, HDMI/DVI Ports
 - HDMI Supports High Definition input and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.
- RS-232C Serial Ports
- 4 PC Sound Jack: Connect the audio cable to the *LINE OUT jack of the PC sound card.
- **6** AV Ports
- **6** Speaker Ports

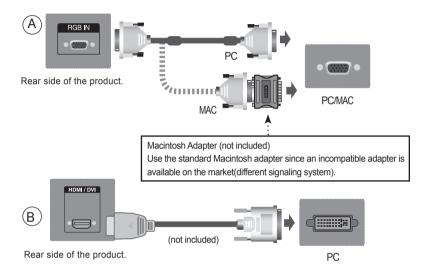
*LINE OUT

A terminal used to connect to the speaker including a built-in amplifier (Amp). Make sure that the connecting terminal of the PC sound card is checked before connecting. If the Audio Out of PC sound card has only Speaker Out, reduce the PC volume.

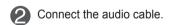
If the Audio Out of the PC sound card supports both Speaker Out and Line Out, convert to Line Out using the card jumper of the program (see your sound card manual).

When Connecting to Your PC

- Make sure the computer, product and the peripherals are turned off. Then, connect the signal input cable.
 - (A) When connecting with the D-Sub signal input cable.
 - (B) When connecting with the HDMI to DVI signal input cable (not included).



* Use shielded signal interface cables (D-Sub 15-pin cable, DVI cable) with ferrite cores to maintain standard compliance for the product.

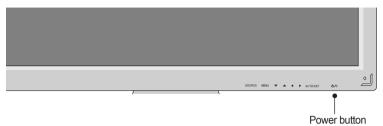




Connect the power cord.

Rear side of the product.

1 Turn on power by pressing the power button on the product.



- (2) Turn on the PC.
- Select an input signal.

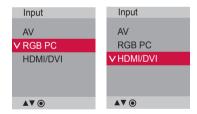
 Press the INPUT button on the remote control to select the input signal.



Or, press the SOURCE button on the back of the product.



- (A) When connecting with a D-Sub signal input cable.
 - Select RGB PC: 15-pin D-Sub analog signal.
- (B) When connecting with a HDMI to DVI signal input cable.
 - Select HDMI/DVI: HDMI to DVI digital signal.



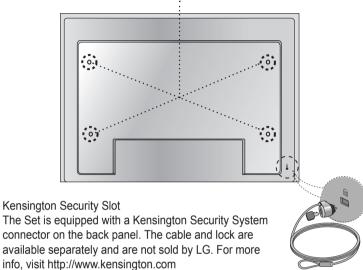


How to connect to two computers.

- Connect the signal cables (HDMI to DVI and D-Sub) to each computer.
- Press INPUT on the remote control to select the computer to use.
- Directly connect to a grounded power outlet on the wall or a power bar with a grounded wire.

VESA FDMI Wall Mounting

This product supports a VESA FDMI compliant mounting interface. These mounts are purchased separately and not available from LG. Refer to the instructions included with wall mount for more info.

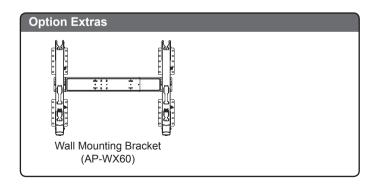


WARNING

 To prevent injury, this apparatus must be securely attached to the wall according to the installation instructions.

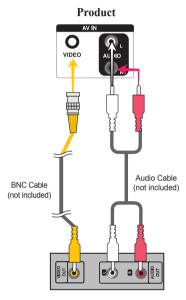
Optional Installer Remote Control for model No. Series M4210L

There is an optional installer remote control available for the M4210L series. The installer remote control is NOT included with the apparatus.



Video Input

- Connect the video cable as shown below and then connect the power cord (see page 10).
 - A Connecting with a BNC cable.
 - Connect the input terminal with the proper color.



VCR/DVD Receiver

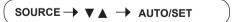
2 Se

Select an input signal.

Press the **INPUT** button on the remote control to select the input signal.



Or, press the **SOURCE** button on the back of the product.



- (A) When connecting with an BNC cable.
 - · Select AV.

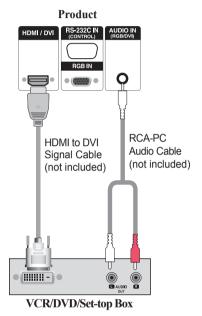




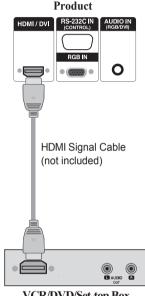
 When the BNC cable is connected simultaneously with an S-Video cable, the S-Video input has priority.

HDMI Input (480p/576p/720p/1080i/1080p)

- HDMI supports high definition input and HDCP (High-bandwidth Digital Content Protection). Some devices require HDCP in order to display HD signals.
- Connect the video/audio cable as shown below and then connect the power cord (see page 10).



Note: Dolby Digital is not supported.



VCR/DVD/Set-top Box

2 Select an input signal.

Press the **INPUT** button on the remote control to select the input signal.



Or, press the **SOURCE** button on the back of the product.



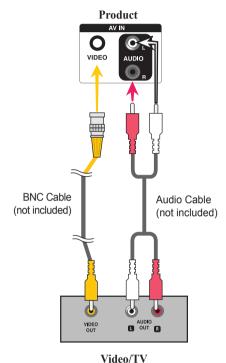
When connecting with an HDMI to DVI signal input cable. When connecting with an HDMI signal input cable.

Select HDMI/DVI



Watching AV Outputs

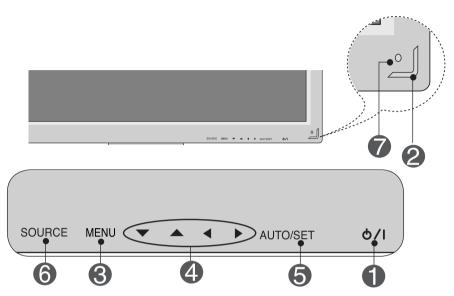
- When using the AV input, you can connect the AV Out to other monitors.





• When multi-connecting in/out cascade format, no loss cables are recommended. We recommend using a cable distributor.

Screen Adjustment Options



- Power Button
- Press this button to turn on the power. Press this button again to turn it off.
- 2 Power Indicator
- This Indicator lights up blue when the display operates normally(on mode). If the display is in sleep (Energy Saving) mode, this indicator color changes to amber.
- **MENU Button** ·∪
 - Use this button to show/hide the OSD (On Screen Display).
- OSD Select /
 Adjust Button
- Use this button to select an icon or adjust the setting in the OSD.

35

- ▼ ▲ Adjust the up and down.
- Adjust the volume.

 Volume

Screen Adjustment Options



[For PC Analog signal]

Auto in progress
For optimal display change resolution to 1920 x 1080

[When 1920 x 1080 is selected]

Auto in progress



SOURCE → ▼ ▲ → AUTO/SET

- Toggles between inputs

AV Composite video, Separate video

RGB PC 15-pin D-Sub analog signal

HDMI/DVI Digital signal





IR Receiver

• This is where the unit receives signals from the remote control.

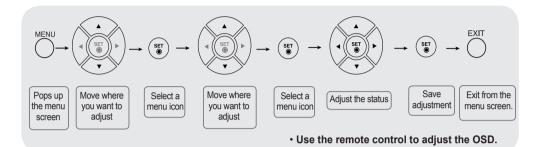


Icon	Function Description
Picture	Adjusts screen brightness, contrast and color.
Audio	Adjusts audio.
Time	Adjusts the timer options.
Option	Adjusts the screen status.
Information	Adjust ID and checks Serial No. and SW version.



OSD(On Screen Disp lay)
The OSD function enables you to conveniently adjust the screen status with a graphic interface.

How to Adjust the OSD (On-Screen Display)



- 1 Press the **MENU** button and the main menu of the OSD appears.
- 2 To navigate, use the ▼ ▲ Buttons.
- 3 When you've highlighted the desired icon, press **SET**.
- 4 Use the ▼ ▲ ◀ ▶ buttons to adjust the item.
- 5 Accept the changes by pressing **SET**.
- 6 Exit the OSD by pressing **EXIT**.

Adjusting the Screen Automatically

Press **AUTO/SET** (**AUTO** on the remote Control) when viewing a PC analog signal. The optimal screen settings will be selected that suit the current mode. If adjustments are not satisfactory, adjust the screen manually.

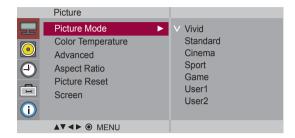
[When 1920 x 1080 is selected]

Auto in progress



Adjusting Screen Color

Picture Mode



Toggles between screen presets.

- · Vivid: Displays a sharp image.
- Standard : This is the optimum viewing condition for general users.
- Cinema: This mode optimizes video for watching movies.
- Sport: This mode emphasizes dynamic video and primary colors (e.g. white, uniforms, grass, sky blue, etc.) by realizing the optimal image settings for sports.
- Game: This is the mode for fast response speeds for video games.
- User1,2: Select this option to use the user-defined settings.



Backlight: Adjusts the brightness of LCD panel.

Contrast: Adjusts the difference between light and dark levels.

Brightness: Adjusts the brightness of the screen. **Color**: Adjusts the color (works in DTV mode).

Sharpness: Adjusts the clearness of the screen (function works in DTV mode).

Tint :Adjusts the tint (function works in DTV mode).

Expert: Compensates for each image mode, or adjusts image values according to a particular image (applied only to User2 menu). (Function works in AV and HDMI-DTV modes.)

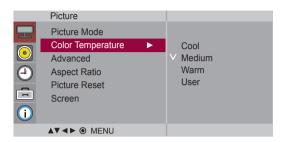


If the 'Picture Mode' setting in the Picture menu is set to Vivid, Standard, Cinema, Sport or Game, the subsequent menus will be automatically set.



Adjusting Screen Color

Color Temperature



Color Settings

Cool : Slightly purple temperature.
 Medium : Slightly blue temperature.
 Warm : Slightly red temperature.
 User : Selects user-defined settings.



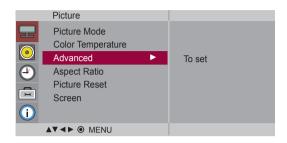
Red / Green / Blue

Set your own color levels.



Adjusting Screen Color

Advanced



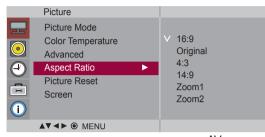
- Gamma: Set your own gamma value.: -50/0/50
 On the monitor, high gamma values display whitish images and low gamma values display high contrast images.
- Film Mode : (Function works in AV mode.)

 When watching a movie, this function adjusts screen settings to the best picture appearance.
- Black Level : (Function works in AV(NTSC), HDMI/DVI modes.) Adjusts the contrast and the brightness of the screen using the black level.
 - High: The reflection of the screen gets brighter.
 - Low : The reflection of the screen gets darker.
- NR : Removes noise up to the point where it does not damage the original picture.



Adjusting Screen Color

Aspect Ratio Selects the image size of the screen.



<AV>

16:9 Widescreen mode.

Just Scan Displays the full signal data without cropping any of the image.

Original The aspect ratio is not adjusted from the original. It is set by the program being

watched

4:3 Selects a 4:3 aspect ratio image.

1:1 The aspect ratio is not adjusted from the original. Used in PC mode.

(Only HDMI/ DVI PC, RGB PC.)

14:9 programs are viewed normally in 14:9 with black bars added to the top and

bottom. 4:3 programs are magnified on the top/bottom and left/right sides.

Zoom1, 2 4:3 programs are magnified until they fill the 16:9 screen. The top and bottom

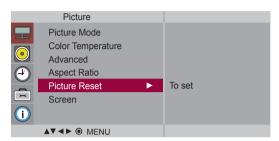
will be cut cropped.

MODE	AV	HDMI/DVI		RGB
ARC		DTV	PC	PC
16:9	•	•	•	•
Just Scan	×	•	X	X
Original	•	X	X	X
4:3	•	•	•	•
1:1	×	×	•	•
14:9	•	×	×	×
Zoom1	•	X	X	X
Zoom2	•	×	×	×

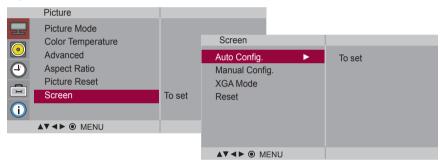


Adjusting Screen Color

Picture Reset Return Picture Mode, Color Temperature, Advanced, Aspect Ratio to the default settings.



Screen Adjust the screen video.



- Auto Config. (RGB PC input only): Adjusts the screen position, clock and phase. Available for analog signals only.
- Manual Config.: If the picture isn't clear after auto adjustment and characters are still trembling, adjust the picture phase manually.
 - * Phase and Clock function are not available in HDMI/DVI DTV.

Phase: Removes any horizontal noise and clear or sharpen characters. Available for analog signals only.

Clock : Minimizes any vertical bars or stripes visible on the screen background. The horizontal screen size will also change. Available for analog signals only.

H-Position: Moves the screen position horizontally.
V-Position: Moves the screen position vertically.
H-Size: Adjust the horizontal size of the screen.
V-Size: Adjust the vertical size of the screen.

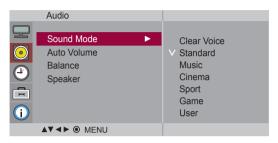
- **XGA Mode** (RGB-PC only). : For better picture quality, select the same mode corresponding to your computer resolution.
- · Reset: Return Manual config. and XGA Mode to the default settings.



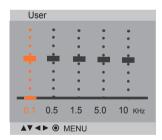
Adjusting Audio

Sound Mode

The best sound quality will be selected automatically depending on the video type that you're currently watching.



- Clear Voice: By differentiating the human sound range from others, Clear Voice II improves
 voice quality.
- Standard : Offers standard-quality sound.
- · Music: Optimizes sound for listening to music.
- Cinema: Optimizes sound for watching movies.
- Sport : Optimizes sound for watching sports events.
- · Game: Optimizes sound for playing video games.
- User : Selects user-defined audio settings.



Auto Volume

To adjust uneven sound volumes across all channels or signals automatically to the most appropriate level. To use this feature, select On.

Balance

Balance sound from the left and right speakers.

Speaker

Adjust internal speaker status.

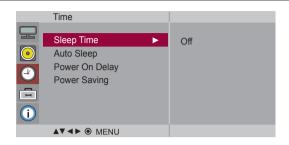
If you want to use your external hi-fi stereo system, turn off the internal speakers of the set.



When connected to your computer and the 'Sound Mode' setting in the audio menu is Clear Voice, Standard, Music, Cinema or Sport, the available menus are Balance, Auto Volume and Speaker.



Adjusting the Timer



Sleep

The power is automatically turned off when the time set by a user has passed.

Time

- 1) Press **MENU** and then use **▼ ▲** to select the **Sleep Time** menu.
- 2) Press ➤ and then use ▼ ▲ to set the hour (00 to 23).
 3) Press ➤ and then use ▼ ▲ to set the minutes (00 to 59).

Auto Sleep If **Auto Sleep** is active and there is no input signal, the set switches to off automatically after 10 minutes.

- 1) Press **MENU** and then use ▼ ▲ to select the **Auto Sleep** menu.
- 2) Press ▶ and then use ▼ ▲ to select On or Off.

Power On Delay When connecting multiple monitors and turning the power on, the monitors are turned on individually to prevent overload.

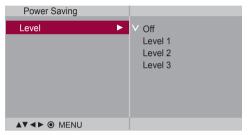


- In the event of power interruption (disconnection or power failure), the clock must be reset.
- Once the on or off time is set, these functions operate daily at the preset time.
- Off time function overrides On time function if they are set to the same time.
- · When On time is operated, input screen is turned on as it was turned off.



Adjusting the Timer





Power Saving

Adjusting the screen brightness helps you save energy.

- · Level: Total 4 screen brightness levels are provided.
 - Off: 100% light
 - Level 1: 80% light
 - Level 2: 60% light
 - Level 3: 40% light



Selecting Options



Language

To choose the language in which the control names are displayed.

Key Lock

Use ▼ ▲ to select **On** or **Off**. The monitor can be set so that it can only be used with the remote control. This feature can prevent unauthorized viewing.

To lock OSD screen adjustment, set the **Key Lock** tab to the 'On' position.

To unlock OSD screen adjustment, do the following:

• Push the MENU button on the remote control and set Key Lock to the 'Off' position.

ISM Method

A frozen or still picture from a PC/video game displayed on the screen for prolonged periods of time could result in a ghost image. Avoid allowing a fixed image to remain on the screen for a long period of time.

- Normal: Leave on normal if you don't foresee burn in being a problem.
- White wash: White wash fills the screen with solid white. This helps removes permanent
 images burned into the screen. A permanent image may be impossible to clear
 entirely with white wash.
- Orbiter: May help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. To avoid a permanent image on the screen, the screen will move every 2 minutes.
- Inversion: This function inverts the panel color of the screen. The panel color is automatically inverted every 30 minutes.
- Dot Wash: This function moves the black dots of the screen every 5 seconds.

Power Indicator

Use this function to set the power indicator on the front side of the product to On or Off.

DPM Select

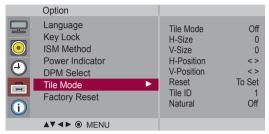
Turn the power saving mode on / off.



Selecting Options

 To use this function you need to use multiple sets and be connected by an RGB cable by a distributor and RS-232C.

Tile mode

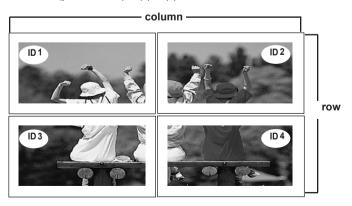


It is used to enlarge the screen and also used with several products to view screen.

- Tile Mode Select tile mode and choose tile alignment and set the ID of the current sets to a set location.
 - * Press SET to save adjustments.
 - Tile mode : column x row (c = 1, 2, 3, 4,5 r = 1, 2, 3, 4,5)
 - 5 x 5 available.
 - Configuration of an integration screen is also available as well as configuration of one by one Display.



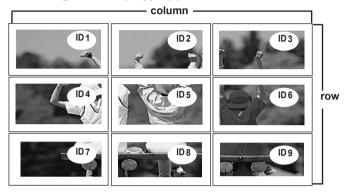
- Tile mode (product 1 ~ 4) : c(2) x r(2)



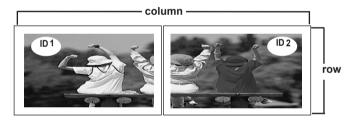


Selecting Options

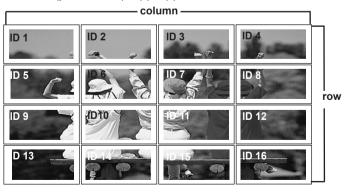
- Tile mode (product 1 ~ 9) : c(3) x r(3)



- Tile mode (product 1 ~ 2) : c(2) x r(1)



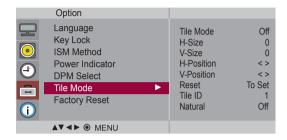
- Tile mode (product 1 ~16) : c(4) x r(4)





Selecting Options

Tile mode



• **H-Size** Adjusts the horizontal size of the screen taking into account the size of the bezel.

• V-Size Adjusts the vertical size of the screen taking into account the size of the bezel.

• H-Position Moves the screen position horizontally.

• V-Position Moves the screen position vertically.

• Reset Initializes and releases Tile Mode.

All Tile setting are released when selecting Tile recall and the screen returns to

Full screen.

• Tile ID Selects the location of the Tile by setting an ID.

• **Natural** The image is omitted by the distance between the screens to be naturally shown.

Factory Reset Select this option to return to the default factory settings.



Adjust Set ID and Check Serial No. and SW Version.



Set ID You can assign a unique Set ID NO (name assignment) to each product when several

products are connected. Specify the number (01 H to 63 H) using ▼ ▲ and exit. Use the assigned **Set ID** to individually control each product using the Product Control Program.

Serial No. This menu shows the serial number of the product.

SW Version This menu shows the software version.

Troubleshooting

No Image is Displayed

- Is the product power cord connected?
- Is the power indicator light on?
- Power is on, power indicator is blue but the screen appears extremely dark.
- The power indicator amber?
- Does the 'Out of range' message appear?

 Does the 'Check signal cable' message appear?

- See if the power cord is properly connected to the outlet.
- · See if the power switch is turned on.
- · May need service.
- · Adjust brightness and contrast again.
- · Backlight may need repair.
- If the product is in power saving mode, move the mouse or press any key.
- Turn both devices off and then back on.
- The signal from the PC (video card) is out of the vertical or horizontal frequency range of the product. Adjust the frequency range by referring to the specifications in this manual.
 - * Maximum resolution

RGB : 1920 x 1080 @ 60 Hz HDMI/DVI : 1920 x 1080 @ 60 Hz

connected. Check the signal cable.

- The signal cable between PC and product is not
- Press the 'INPUT' menu in the remote Control to check the input signal.

'Unknown Product' Message Appears When the Product is Connected.

• Did you install the driver?

- Install the product driver provided with the product, or download it from http://www.lg.com
- See if the plug & play function is supported by referring to your video card user manual.

'Key Lock On' Message Appears.

- The 'Key Lock On' message appears when pressing the Menu button.
- The control locking function prevents unintentional OSD setting change due to careless usage. To unlock the controls, simultaneously press Menu and ► for several seconds. (You cannot set this function using the remote control buttons. You can only set this function with the controls on the product.)



- * Vertical frequency: To enable normal viewing, the screen image should be changed tens of times every second like a fluorescent lamp. The vertical frequency or refresh rate is the number of times an image is display per second. The unit is Hz.
- * Horizontal frequency: The horizontal interval is the time it takes to display one vertical line. When 1 is divided by the horizontal interval, the number of horizontal lines displayed every second can be tabulated as the horizontal frequency. The unit is kHz.

Troubleshooting

The Screen Image Looks Abnormal.

- Is the screen position wrong?
- D-Sub analog signal Press "AUTO" on the remote control to automatically select the optimal screen status that fits the current mode. If adjustment is not satisfactory, use the OSD Position menu.
- See if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution in the Control Panel "Display" Setting menu.
- Do thin lines appear in the background?
- D-Sub analog signal Press the "AUTO" button on the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the Clock OSD menu.
- Horizontal noise appears or characters look blurred.
- D-Sub analog signal Press the "AUTO" on the remote control to automatically select an optimal screen status that fits into the current mode. If adjustment is not satisfactory, use the OSD Phase menu.
- The screen is displayed abnormally.
- The proper input signal is not connected to the signal port. Connect the signal cable that matches with the source input signal.

Ghost Image Appears on the Screen.

- After-image appears when the product is turned off.
- If you display a fixed image for a long time, the pixels may be damaged quickly. Use the screen-saver function.

Troubleshooting

The Audio Does Not Work.

• No sound?

- See if the audio cable is connected properly.
- Adjust the volume.
- See if the sound is set properly.

. Sound is too dull.

Select the appropriate equalizer setting.

. Sound is too low.

Adjust the volume.

Screen Color is Abnormal.

- Screen has poor color resolution (16 colors).
- Set the number of colors to more than 24 bits (true color)
 Select Control Panel Display Settings Color
 Table menu in Windows.
- Screen color is unstable or mono-colored.
- Check the connection status of the signal cable. Or, re-insert the PC video card.
- Do black spots appear on the screen?
- Several pixels (red, green, white or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. The is not a malfunction of the LCD.

Abnormal Operation

- The power suddenly turned off.
- Is the sleep timer set?
- Check the power control settings.
 Power interrupted.
- "CAUTION! FAN STOP!"
 If the power is turns off after this message appears, it means that the fan has malfunctioned. Contact your local service center.

Specifications

Product specifications can change without prior notice for product improvement.

LCD Panel	106.73 cm (42.02 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel 0.4845 mm (H) x 0.4845 (V) mm (Pixel Pitch)		
Power	Rated Voltage Power Consumption	AC 100-240 V~ On Mode Sleep Mode Off Mode	50 / 60 Hz 2.2 A : 220 W Typ. : ≤ 1 W (RGB) / 2 W (HDMI/DVI) : ≤ 0.5 W
Dimensions & Weight	[2] 99.56 cm (39.19 inch [3] 99.56 cm (39.19 inch [4] 99.56 cm (39.19 inch) x 67.41 cm (26.5) x 58.76 cm (23.1) x 67.41 cm (26.5	[2] (4) (4) inch) x 29.30 cm (11.54 inch) (3) inch) x 11.37 cm (4.47 inch) (4) inch) x 29.30 cm (11.54 inch) (5) inch) x 11.37 cm (4.47 inch)
	Net [1] 19.6 kg (43.2 lb) [3] 22.2 kg (48.9 lb)		[2] 16.2 kg (35.7 lb) [4] 18.8 kg (41.4 lb)

NOTE

■ Information in this document is subject to change without notice.

Specifications

Product specifications can change without prior notice for product improvement.

Video Signal	Max. Resolution	RGB: 1920 x 1080 @ 60 Hz HDMI/DVI: 1920 x 1080 @ 60 Hz - It may not be supported depending on the OS or video card type.
	Recommended Resolution	RGB: 1920 x 1080 @ 60 Hz HDMI/DVI: 1920 x 1080 @ 60 Hz - It may not be supported depending on the OS or video card type.
	Horizontal Frequency	RGB : 30 kHz to 83 kHz HDMI/DVI : 30 kHz to 83 kHz
	Vertical Frequency	RGB : 56 Hz to 75 Hz HDMI/DVI : 56 Hz to 60 Hz
	Synchronization Type	Composite/Separate/Digital
Input Connector		15-pin D-Sub type, HDMI (digital), Composite Video, RS-232C
Environmental Conditions	Operational Condition Storage Condition	Temperature: 5 °C to 35 °C , Humidity: 10 % to 80 % Temperature: -20 °C to 60 °C , Humidity: 5 % to 95 %

* Applicable only for models that support the speakers

Audio	RMS Audio Output	10 W + 10 W (R + L)
	Input Sensitivity	0.7 Vrms
	Speaker Impedance	8 Ω

NOTE

Information in this document is subject to change without notice.

Specifications

PC Mode - Preset Mode

Р	reset mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	F	Preset mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640 x 350	31.469	70.8	*11	1280 x 768	47.7	60
2	720 x 400	31.468	70.8	*12	1360 x 768	47.72	59.799
*3	640 x 480	31.469	59.94	*13	1366 x 768	47.7	60
4	640 x 480	37.5	75	*14	1280 x 1024	63.981	60.02
*5	800 x 600	37.879	60.317	15	1280 x 1024	79.98	75.02
6	800 x 600	46.875	75	*16	1680 x 1050	65.290	59.954
7	832 x 624	49.725	74.55	*17	1920 x 1080	67.5	60
*8	1024 x 768	48.363	60				
9	1024 x 768	60.123	75.029				
*10	1280 x 720	44.772	59.855				

1~17: RGB Mode
*: HDMI/DVI mode

DTV Mode

	HDMI/DVI (DTV)
480i	x
576i	x
480p	0
576p	o
720p	o
1080i	0
1080p	0

Power Indicator

Mode	Product
On Mode	Blue
Sleep Mode	Amber
Off Mode	-

NOTE

■ DTV/PC selection on RGB and HDMI/DVI inputs is available for the following PC resolutions : 640 x 480 / 60 Hz, 1280 x 720 / 60 Hz, 1920 x 1080 / 60 Hz and DTV resolutions : 480p, 720p, 1080p.

Controlling the Multiple Product

Use this method to connect several products to a single PC. You can control several products at a time by connecting them to a single PC.

RS-232C Configurations

7-Wire Co	nfigurations	Standard RS-23	32C cable)
	PC	Monitor	
RXD TXD GND DTR DSR RTS CTS	2	3 2 5 6 4 8 7	TXD RXD GND DSR DTR CTS RTS
	D-Sub 9 (Female)	D-Sub 9 (Female)	

3-Wi	3-Wire Configurations (Not Standard)				
	PC	Monitor			
RXD TXD GND DTR DSR RTS CTS	2 •————————————————————————————————————	3 2 5 6 4 7	TXD RXD GND DTR DSR RTS CTS		
	D-Sub 9 (Female)	D-Sub 9 (Female)			

Communication Parameter

▶ Baud Rate : 9600 buad Rate (UART)

Data Length: 8 bit
Parity Bit: None
Stop Bit: 1bit
Flow Control: None

▶ Communication Code : ASCII code▶ Use a crossed (reverse) cable

Controlling the Multiple Product

Command Reference List

	COMMAND1	COMMAND2	DATA1	DATA2	DATA3
01. Power	k	а	00H to 01H		
02. Input Select	k	b	02H to 09H		
03. Aspect Ratio	k	С	01H to 09H		
04. Screen Mute	k	d	00H to 01H		
05. Volume Mute	k	е	00H to 01H		
06. Volume Control	k	f	00H to 64H		
07. Contrast	k	g	00H to 64H		
08. Brightness	k	h	00H to 64H		
09. Color	k	i	00H to 64H		
10. Tint	k	j	00H to 64H		
11. Sharpness	k	k	00H to 64H		
12. OSD Select	k	I	00H to 01H		
13. Remote Lock/ key Lock	k	m	00H to 01H		
14. Balance	k	t	00H to 64H		
15. Color Temperature	k	u	00H to 03H		
16. Abnormal state	k	Z	FFH		
17. ISM mode	j	р	00H to 10H		
18. Auto configuration	j	u	01H		
19. Key	m	С	Key Code		
20. Tile Mode	d	d	00H to 55H		
21. Tile H Position	d	е	00H to 64H		
22. Tile V Position	d	f	00H to 64H		
23. Tile H Size	d	g	00H to 64H		
24. Tile V Size	d	h	00H to 64H		
25. Tile ID Set	d	i	00H to 19H		
26. Natural Mode (In Tile mode)	d	j	00H to 01H		
27. Picture mode(PSM)	d	X	00H to 06H		
28. Sound mode	d	У	00H to 06H		
29. Fan Fault check	d	W	FFH		
30. Elapsed time return	d	I	FFH		
31. Temperature value	d	n	FFH		
32. Lamp fault check	d	р	FFH		
33. Auto Volume	d	u	00H to 01H		
34. Speaker	d	V	00H to 01H		
35. Sleep Time	f	f	00H to 08H		
36. Auto Sleep	f	g	00H to 01H		
37. Power On Delay	f	h	00H to 64H		
38. Language	f	i	00H to 09H		
39. DPM Select	f	j	00H to 01H		
40. Reset	f	k	00H to 02H		

Controlling the Multiple Product

	COMMAND1	COMMAND2	DATA1	DATA2	DATA3
41. Power Saving	f	1	00H to 03H		
42. Power Indicator	f	0	00H to 01H		
43. H Position	f	q	00H to 64H		
44. V Position	f	r	00H to 64H		
45. H Size	f	S	00H to 64H		
46. V Size	f	t	00H to 64H		
47. Serial no.	f	У	FFH		
48. S/W Version	f	Z	FFH		
49. Input Select	x	b	20H to A0H		

Controlling the Multiple Product

Transmission / Receiving Protocol

Transmission

[Command1][Command2][][Set ID][][Data][Cr]

- * [Command 1]: First command. (k, j, m, d, f, x)
- * [Command 2]: Second command.(a to u)
- * [Set ID]: Set up the Set ID number of product.

range: 01Hto63H. by setting '0', server can control all products.

* In case of operating with more than 2 sets using set ID as '0' at the same time, it should not be checked the ack message.

Because all sets will send the ack message, so it's impossible the check the whole ack messages.

* [DATA]: To transmit command data.

Transmit 'FF' data to read status of command.

* [Cr]: Carriage Return

ASCII code '0 x 0 D'

* []: ASCII code Space (0 x 20)'

OK Acknowledgement

[Command2][][Set ID][][OK][Data][x]

* The Product transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data.

If the data is data write mode, it returns the data of the PC computer.

Error Acknowledgement

[Command2][][Set ID][][NG][Data][x]

* If there is error, it returns NG

Controlling the Multiple Product

Transmission / Receiving Protocol

01. Power(Command: a)

▶ To control Power On / Off of the Set.

Transmission

[k][a][][Set ID][][Data][Cr]

Data 0 : Power Off 1 : Power On

Acknowledgement

[a][][Set ID][][OK][Data][x]

▶To show the status of Power On / Off.

Transmission

[k][a][][Set ID][][FF][Cr]

Acknowledgement

[a][][Set ID][][OK][Data][x]

Data 0 : Power Off 1 : Power On

02. Input Select (Command : b) (Main Picture Input)

▶ To select input source for the Set.

You can also select an input source using the INPUT button on the remote control.

Transmission

[k][b][][Set ID][][Data][Cr]

Data 2: AV

7 : RGB (PC) 8 : HDMI (DTV) 9 : HDMI (PC)

Acknowledgement

[b][][Set ID][][OK][Data][x]

Data 2: AV

7 : RGB (PC) 8 : HDMI (DTV) 9 : HDMI (PC)

Controlling the Multiple Product

Transmission / Receiving Protocol

03. Aspect Ratio(Command : c) (Main picture format)

▶To adjust the screen format.

You can also adjust the screen format using the ARC (Aspect Ratio Control) button on remote control or in the Screen menu.

Transmission

[k][c][][Set ID][][Data][Cr]

Data 1: Normal Screen (4:3)

2: Wide Screen (16:9)

4: Zoom1 (AV)

5 : Zoom2 (AV)

6 : Original (AV)

7:14:9 (AV)

9: Just Scan(HD DTV), 1:1 (RGB PC, HDMI / DVI PC)

<u>Acknowledgement</u>

[c][][Set ID][][OK][Data][x]

04. Screen Mute(Command : d)

To select screen mute on / off.

Transmission

[k][d][][Set ID][][Data][Cr]

Data 0 : Screen mute off (Picture on)

1: Screen mute on (Picture off)

<u>Acknowledgement</u>

[d][][Set ID][][OK][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

05. Volume Mute(Command: e)

► To control On/Off of the Volume Mute.

Transmission

[k][e][][Set ID][][Data][Cr]

Data 0 : Volume Mute On (Volume Off) 1 : Volume Mute Off (Volume On)

Acknowledgement

[e][][Set ID][][OK][Data][x]

Data 0 : Volume Mute On (Volume Off) 1 : Volume Mute Off (Volume On)

06. Volume Control(Command: f)

► To adjust Volume .

Transmission

[k][f][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H (Hexadecimal code)

<u>Acknowledgement</u>

[f][][Set ID][][OK][Data][x]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' page A 8.

Controlling the Multiple Product

Transmission / Receiving Protocol

07. Contrast(Command: g)

▶ To adjust screen contrast. You can also adjust the contrast in the Picture menu.

Transmission

[k][g][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' as shown below.

Acknowledgement

[g][][Set ID][][OK][Data][x]

* Real data mapping

0: Step 0

. A : Step 10

:

F : Step 15

10 : Step 16

64: Step 100

08. Brightness(Command: h)

► To adjust screen brightness.

You can also adjust the brightness in the Picture menu.

Transmission

[k][h][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' as shown below.

Acknowledgement

[h][][Set ID][][OK][Data][x]

* Real data mapping

0: Step

.

A: Step 10

.

F: Step 15

10: Step 16

.

64: Step 100

Controlling the Multiple Product

Transmission / Receiving Protocol

09. Color(Command : i) (Video Timing only)

▶ To adjust the screen color.

You can also adjust the color in the Picture menu.

Transmission

[k][i][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H (Hexadecimal code)

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[i][][Set ID][][OK][Data][x]

Data Min: 00H to Max: 64H

10. Tint(Command : j) (Video Timing only)

▶ To adjust the screen tint.

You can also adjust the tint in the Picture menu.

Transmission

[k][j][][Set ID][][Data][Cr]

Data Red: 00H to Green: 64H

(Hexadecimal code)

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[j][][Set ID][][OK][Data][x]

Data Red: 00H to Green: 64H

* Tint Real data mapping

0: Step 0 to Red

:

64: Step 100 to Green

Controlling the Multiple Product

Transmission / Receiving Protocol

11. Sharpness(Command: k) (Video Timing only)

▶ To adjust the screen Sharpness.

You can also adjust the sharpness in the Picture menu.

Transmission

[k][k][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H

(Hexadecimal code)

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[k][][Set ID][][OK][Data][x]

Data Min: 00H to Max: 64H

12. OSD Select(Command: I)

▶ To control OSD on/off to the set.

Transmission

[k][l][][Set ID][][Data][Cr]

Data 0: OSD Off 1: OSD On

<u>Acknowledgement</u>

[I][][Set ID][][OK][Data][x]

Data 0 : OSD Off 1 : OSD On

13. Remote Lock /Key Lock (Command : m)

➤ To control Remote Lock on/off to the set.

This function, when controlling RS-232C, locks the remote control and the local keys.

Transmission

[k][m][][Set ID][][Data][Cr]

Data 0 : Off 1 : On

Acknowledgement

[m][][Set ID][][OK][Data][x]

Data 0 : Off 1 : On

Controlling the Multiple Product

Transmission / Receiving Protocol

14 Balance(Command: t)

▶ To adjust the sound balance.

Transmission

[k][t][][Set ID][][Data][Cr]

Data Min: 00H to Max: 64H

(Hexadecimal code)

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[t][][Set ID][][OK][Data][x]

Data Min: 00H to Max: 64H

* Balance: L50 to R50

15. Color Temperature (Command : u)

▶ To adjust the screen color temperature.

Transmission

[k][u][][Set ID][][Data][Cr]

Data 0: Medium

1 : Cool

2: Warm

3: User

Acknowledgement

[u][][Set ID][][OK][Data][x]

Data 0: Medium

1: Cool

2: Warm

3: User

• Running the Color Temperature command changes the Picture Mode settings to User1.

Controlling the Multiple Product

Transmission / Receiving Protocol

16. Abnormal state (Command : z)

▶ Abnormal State : Used to Read the power off status when Stand-by mode.

Transmission

[k][z][][Set ID][][Data][Cr]

Data FF: Read

0 : Normal (Power on and signal exist)

1: No signal (Power on)

2: Turn the monitor off by remote control

3: Turn the monitor off by sleep time function

4 : Turn the monitor off by RS-232C function

8: Turn the monitor off by off time function

9: Turn the monitor off by auto off function

Acknowledgement

[z][][Set ID][][OK][Data][x]

17. ISM mode(Command: j p)

Used to select the afterimage preventing function.

Transmission

[j][p][][Set ID][][Data][Cr]

Data 1H: Inversion

2H: Orbiter 4H: White Wash 8H: Normal 10H: Dot Wash

Acknowledgement

[p][][Set ID][][OK][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

18. Auto Configure(Command: j u)

➤ To adjust picture position and minimize image shaking automatically. it works only in RGB(PC) mode.

Transmission

[j][u][][Set ID][][Data][Cr]

Data 1: To set

Acknowledgement

[u][][Set ID][][OK][Data][x]

19. Key(Command: m c)

▶ To send IR remote key code.

Transmission

[m][c][][Set ID][][Data][Cr]

Data Key code: Refer to page A 34.

Acknowledgement

[c][][Set ID][][OK][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

20. Tile Mode(Command : d d)

► Change a Tile Mode.

Transmission

[d][d][][Set ID][][Data][x]

Data	Description
00 or 11	Tile mode is off.
12	1 x 2 mode(column x row)
13	1 x 3 mode
14	1 x 4 mode
55	5 x 5 mode

^{*} The data can not be set to 0X or X0 except 00.

Acknowledgement

[d][][00][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

21. Tile H Position(Command : d e)

▶To set the Horizontal position.

Transmission

[d][e][][Set ID][][Data][x]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[e][][Set ID][][OK/NG][Data][x]

22. Tile V Position(Command : d f)

▶To set the Vertical position.

Transmission

[d][f][][Set ID][][Data][x]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' page A 8.

<u>Acknowledgement</u>

[f][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

23. Tile H Size(Command : d g)

▶To set the Horizontal size.

Transmission

[d][g][][Set ID][][Data][x]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[g][][Set ID][][OK/NG][Data][x]

24. Tile V Size(Command : d h)

▶To set the Vertical size.

Transmission

[d][h][][Set ID][][Data][x]

Data Min: 00H to Max: 64H

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[h][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

25. Tile ID Set(Command : d i)

▶ To assign the Tile ID for Tiling function .

Transmission

[d][i][][Set ID][][Data][x]

Data Min: 00H to Max: 19H

(Hexadecimal code)

Acknowledgement

[i][][Set ID][][OK/NG][Data][x]

26 Natural Mode (In Tile mode) (Command: dj)

▶ To assign the Tile Natural mode for Tiling function .

Transmission

[d][j][][Set ID][][Data][x]

Data 0 : Natural Off

1 : Natural On ff : Read Status

Acknowledgement

[j][][Set ID][][OK/NG][Data][x]

27. Picture Mode (Command : d x)

▶ To adjust the picture mode.

Transmission

[d][x][][Set ID][][Data][x]

Data Structure

Data(Hex)	MODE
00	Vivid
01	Standard
02	Cinema
03	Sport
04	Game
05	User1
06	User2

<u>Acknowledgement</u>

[x][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

28. Sound Mode (Command: dy)

▶To adjust the Sound mode.

Transmission

[d][y][][Set ID][][Data][x]

Data Structure

Data(Hex)	Mode
00	Clear Voice
01	Standard
02	Music
03	Cinema
04	sport
05	Game
06	User

Acknowledgement

[y][][Set ID][][OK/NG][Data][x]

29. Fan Fault check (Command: dw)

▶ To check the Fan fault of the TV.

Transmission

[d][w][][Set ID][][Data][x]

* The data is always FF(in Hex). Data ff: Read Status

<u>Acknowledgement</u>

[w][][Set ID][][OK/NG][Data][x]

* Data is the status value of the Fan fault.

Data 0: Fan fault

1: Fan OK

2: N/A(Not Avaliable)

Controlling the Multiple Product

Transmission / Receiving Protocol

30. Elapsed time return(Command : d I)

▶ To read the elapsed time.

Transmission

[d][l][][Set ID][][Data][x]

* The data is always FF(in Hex).

Acknowledgement

[I][][Set ID][][OK/NG][Data][x]

* The data means used hours. (Hexadecimal code)

31. Temperature value (Command : d n)

▶ To read the inside temperature value.

Transmission

[d][n][][Set ID][][Data][x]

* The data is always FF(in Hex).

<u>Acknowledgement</u>

[n][][Set ID][][OK/NG][Data][x]

32. Lamp fault Check(Command : d p)

▶ To check lamp fault.

Transmission

[d][p][][Set ID][][Data][x]

* The data is always FF(in Hex).

Acknowledgement

[p][][Set ID][][OK/NG][Data][x]

Data 0 : Lamp Fault 1: Lamp OK

^{*} The data is 1 byte long in Hexadecimal.

Controlling the Multiple Product

Transmission / Receiving Protocol

33. Auto volume (Command : d u)

▶ Automatically adjust the volume level.

Transmission

[d][u][][Set ID][][Data][x]

Data 0 : Off 1 : On

Acknowledgement

[u][][Set ID][][OK/NG][Data][x]

34. Speaker (Command : d v)

▶ Turn the speaker on or off.

Transmission

[d][v][][Set ID][][Data][x]

Data 0 : Off 1 : On

Acknowledgement

[v][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

35. Sleep Time (Command: ff)

▶ Set Sleep Time.

Transmission

[f][f][][Set ID][][Data][Cr]

Data

0: Off

1:10

2:20

3:30

4:60

5:90

6:120

7:180

8:240 (Orderly)

<u>Acknowledgement</u>

[f][][Set ID][][OK/NG][Data][x]

36. Auto Sleep (Command: fg)

▶ Set Auto Sleep.

Transmission

[f][g][][Set ID][][Data][Cr]

Data 0 : Off

1: On

Acknowledgement

[g][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

37. Power On Delay (Command : f h)

▶ Set the schedule delay when the power is turned on (Unit: second).

Transmission

[f][h][][Set ID][][Data][Cr]

Data: 00H to 64H (Data value)

• Refer to 'Real data mapping' page A 8.

Acknowledgement

[h][][Set ID][][OK/NG][Data][x]

38. Language (Command: fi)

▶ Set the OSD language.

Transmission

[f][i][][Set ID][][Data][Cr]

Data

- 0: English
- 1 : French
- 2: German
- 3: Spanish
- 4: Italian
- 5: Portuguese
- 6: Chinese
- 7: Japanese
- 8 : Korean
- 9: Russian

Acknowledgement

[i][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

39. DPM Select (Command: fj)

▶ Set the DPM (Display Power Management) function.

Transmission

[f][j][][Set ID][][Data][Cr]

Data 0 : Off 1: On

Acknowledgement

[j][][Set ID][][OK/NG][Data][x]

40. Reset (Command: fk)

▶ Execute the Picture, Screen and Factory Reset functions.

Transmission

[f][k][][Set ID][][Data][Cr]

Data

0 : Picture Reset1 : Screen Reset2 : Factory Reset

Acknowledgement

[k][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmission / Receiving Protocol

41. Power saving(Command: fl)

▶ To set the Power saving mode.

Transmission

[f][I][][Set ID][][Data][Cr]

Data 0: Off

1: (static level 1)

2: (static level 2)

3: (static level 3)

Acknowledgement

[I][][Set ID][][OK/NG][Data][x]

42. Power Indicator (Command: fo)

▶ To set the LED for Power Indicator

Transmission

[f][o][][Set ID][][Data][Cr]

Data 0: Off

1: On

Acknowledgement

[o][][Set ID][][OK/NG][Data][x]

43. H Position (Command: f q)

► To set the Horizontal position

Transmission

[f][q][][Set ID][][Data][Cr]

- * The data range is from 00 to 64(in Hex)
- Refer to 'Real data mapping' page A 8.

Acknowledgement

[q][][Set ID][][OK/NG][Data][x]

Controlling the Multiple Product

Transmi

Transmission / Receiving Protocol

44. V Position (Command: fr)

▶ To set the Horizontal position

Transmission

[f][r][][Set ID][][Data][Cr]

- * The data range is from 00 to 64(in Hex)
- Refer to 'Real data mapping' page A 8.

Acknowledgement

[r][][Set ID][][OK/NG][Data][x]

45. H Size (Command: fs)

▶ To set the Horizontal size.

Transmission

[f][s][][Set ID][][Data][Cr]

- * The data range is from 00 to 64(in Hex)
- Refer to 'Real data mapping' page A 8.

<u>Acknowledgement</u>

[s][][Set ID][][OK/NG][Data][x]

* H Size Real Data Mapping

[Data1]

0x00: Step 0

0x0A: Step 10

0x14: Step 20

0x1E: Step 30

0x28: Step 40

0x32: Step 50

0x3C: Step 60

0x46: Step 70

0x50: Step 80

0x5A: Step 90

0x64: Step 100

Controlling the Multiple Product

Transmission / Receiving Protocol

46. V Size (Command: ft)

▶ To set the Vertical size

Transmission

[f][t][][Set ID][][Data][Cr]

- * The data range is from 00 to 64(in Hex)
- Refer to 'Real data mapping' page A 8.

Acknowledgement

[t][][Set ID][][OK/NG][Data][x]

* V Size Real Data Mapping

[Data1]

0x00: Step 0 0x0A: Step 10

0x14: Step 20

0x1E: Step 30

0x28: Step 40

0x32: Step 50

0x3C: Step 60

0x46: Step 70

0x50: Step 80

0x5A: Step 90

0x64: Step 100

47. Serial no.Check (Command: f y)

▶ To read the serial numbers

Transmission

[f][y][][Set ID][][Data][Cr]

Data FF (to read the serial numbers)

Acknowledgement

[y][][Set ID][][OK/NG][Data1] to [Data13] [x]

^{*} The data format is ASCII Code.

Controlling the Multiple Product

Transmission / Receiving Protocol

48. S/W Version (Command: fz)

▶ Check the software version.

Transmission

[f][z][][Set ID][][Data][Cr]

Data FFH: Read

Acknowledgement

[z][][Set ID][][OK/NG][Data][x]

49. Input Select (Command : x b)

▶ To select input source for the Set.

Transmission

[x][b][][Set ID][][Data][Cr]

Data 20H: AV

60H : RGB (PC) 90H : HDMI/DVI (DTV) A0H : HDMI/DVI (PC)

<u>Acknowledgement</u>

[b][][Set ID][][OK][Data][x]

Data 20H: AV

60H: RGB (PC) 90H: HDMI/DVI (DTV) A0H: HDMI/DVI (PC)

IR Codes

How to connect

▶ Connect your wired remote control to Remote Control port on the Product.

Remote Control IR Code

▶ Output waveform

single pulse, modulated with 37.917kHz signal at 455kHz



▶ Configuration of frame

• 1st frame

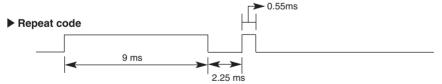
Lead	Low custom code						High custom code							Data code							Data code											
	CO	C1	C2	СЗ	C4	C5	C6	C7	C0	C1	C2	СЗ	C4	C5	C6	C7	D0	D1	D2	D3	D4	D5	D6	D7	D0	D1	D2	D3	D4	D5	D6 D	7

· Repeat frame

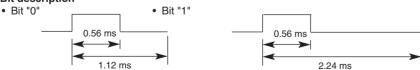


▶ Lead code



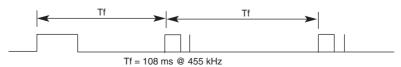


▶ Bit description



Frame interval : Tf

• The waveform is transmitted as long as a key is depressed.



IR Codes

Code(Hex)	Function	Note
00	A	R/C Button
01	▼	R/C Button
02	VOL(◀)	R/C Button
03	VOL(►)	R/C Button
08	POWER ON/OFF	R/C Button (Power On / Off)
C4	POWER ON	Discrete IR Code (Only Power On)
C5	POWER OFF	Discrete IR Code (Only Power Off)
09	MUTE	R/C Button
98	AV	R/C Button
0B	INPUT	R/C Button
0E	SLEEP	R/C Button
43	MENU	R/C Button
5B	EXIT	R/C Button
6E	PSM	R/C Button
44	SET	R/C Button
10	Number Key 0	R/C Button
11	Number Key 1	R/C Button
12	Number Key 2	R/C Button
13	Number Key 3	R/C Button
14	Number Key 4	R/C Button
15	Number Key 5	R/C Button
16	Number Key 6	R/C Button
17	Number Key 7	R/C Button
18	Number Key 8	R/C Button
19	Number Key 9	R/C Button
5A	AV	Discrete IR Code(Input AV Selection)
D5	RGB PC	Discrete IR Code(Input RGB PC Selection)
C6	HDMI/DVI	Discrete IR Code(Input HDMI/DVI Selection)
79	ARC	R/C Button
76	ARC (4:3)	Discrete IR Code(Only 4 : 3 mode)
77	ARC (16:9)	Discrete IR Code(Only 16 : 9 mode)
AF	ARC (ZOOM)	Discrete IR Code(Only ZOOM1, ZOOM2 mode)
99	AUTO CONFIG	Discrete IR Code





Make sure to read the Safety Precautions before using the product.

Keep the Owner's Manual(CD) in an accessible place for future reference.

The model and serial number of the SET is located on the back and one side of the SET. Record it below should you ever need service.

MODEL	
SERIAL	

ENERGY STAR is a set of power-saving guidelines issued by the U.S.Environmental Protection Agency(EPA).



As an ENERGY STAR Partner LGE U. S. A.,Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

Temporary noise is normal when powering ON or OFF this device.